



Hill Air Force Base, Utah

Final

**Environmental Assessment:
Proposed Renovation of Building 238,
Hill Air Force Base, Utah**

January 6, 2006

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14. ABSTRACT Hill Air Force Base (AFB) proposes to accommodate current United States Air Force missions by renovating Building 238, to include: gas turbine engine cells; a bearing shop; lean manufacturing sytems; a product development laboratory; an optical shop and low-observable painting facility; a 5-axis router; a paint training facility; plating and pretreatment processes; and a flame spray booth. The proposed action, alternate locations, and the no action alternative were all considered. The proposed action could be implemented with minor construction-related air emissions of short term duration. Projected long term air emissions fall within the limits prescribed by the Hill AFB Title V permit. The proposed action would produce regulated solid and liquid waste streams including paper wipes; maskants; rags; filters from plating and parts washers; bearing grease; air filters; water from parts washing and pressure testing; paint residue; plating solution and rinse water; and motor oil. All non-recyclable regulated materials would be collected and disposed as hazardous waste (some of the liquid wastes would be treated in the Hill AFB industrial wastewater treatment plant). The proposed action would be expected to produce 34 long-term jobs at Hill AFB. No long-term environmental impacts are expected.		
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Final
**Environmental Assessment (EA):
Proposed Renovation of Building 238,
Hill Air Force Base, Utah**

Contract F42620-00-D0028, Delivery Order #0016

**Department of the Air Force
Air Force Materiel Command
Design Engineering Support Program (DESP)
Hill Air Force Base, Utah 84056**

January 6, 2006

Prepared in accordance with the Department of the Air Force Environmental Impact Analysis Process (EIAP) 32 CFR Part 989, Effective July 6, 1999, which implements the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) regulations.

EXECUTIVE SUMMARY

Purpose and Need

The purpose of the proposed action is to accommodate current United States Air Force (USAF) missions by renovating Building 238 at Hill Air Force Base (AFB). The building renovation would include consolidating gas turbine engine (GTE) cells; relocating a bearing shop from Building 214; providing facilities to implement lean manufacturing improvements for the jet fuel starter (JFS), air turbine starter (ATS), and power take off (PTO) programs; constructing a new product development laboratory in support of composite tooling efforts; creating a new optical shop and expanding low-observable (LO) painting capabilities; installing a new 5-axis router; providing a LO paint training facility; installing tanks to accomplish chromium plating, brush nickel plating, Dow 7 magnesium pretreatment, alodine, and passivation processes; and installing a flame spray booth.

The proposed action is needed to meet current and future USAF workload requirements for A-10 Thunderbolt II, B-1B Lancer, B-2 Spirit, C-17 Globemaster III, F-15 Eagle, F-16 Fighting Falcon, F/A-22 Raptor, T-38 Talon, and F-35 Joint Strike Fighter aircraft. The F/A-22 Raptor was newly introduced into the USAF fleet during 2005, and Hill AFB is the only USAF facility with the capability or assignment to repair F/A-22 Raptor aircraft. Similarly, Hill AFB is the only USAF facility with the capability or assignment to repair F-16 Fighting Falcon and A-10 Thunderbolt II aircraft.

Scope of Review

During a scoping meeting and subsequent interactions, the following environmental issues were addressed:

- Air quality.
- Solid and hazardous wastes (including liquid waste streams).
- Biological resources.
- Geology and surface soils.
- Water quality.
- Cultural resources.
- Occupational safety and health.
- Air installation compatible use zone (AICUZ).
- Socioeconomic resources.

As explained in the body of this document, the issues that were identified for detailed consideration are: air quality; solid and hazardous wastes (including liquid waste streams); surface soils; and socioeconomics. Environmental impacts of the no action alternative were also considered.

Selection Criteria

The facility that accommodates the aircraft maintenance group's (309 AMXG) and the commodities maintenance group's (309 CMXG) modification, repair, and maintenance functions should:

- Have sufficient space to house all of the necessary equipment and workers.
- Allow workers to efficiently complete their assigned workload.
- Incorporate all currently-required technologies.
- Provide security measures for the various aircraft programs.
- Be protective of facilities, human health, and the environment.

Proposed Action

Proposed Action - The proposed action includes all work necessary to renovate Building 238 at Hill AFB. The proposed addition would include: consolidating GTE cells; relocating a bearing shop from Building 214; providing facilities to implement lean manufacturing improvements for JFS, ATS, and PTO programs; constructing a new product development laboratory in support of composite tooling efforts; creating a new optical shop and expanding LO painting capabilities; installing a new 5-axis router; providing a LO paint training facility; installing tanks to accomplish chromium plating, brush nickel plating, Dow 7 magnesium pretreatment, alodine, and passivation processes; and installing a flame spray booth.

No Action Alternative – Under the no action alternative, it is predicted that Hill AFB may be unable to provide sufficient capacity for modification, repair, and maintenance functions for A-10 Thunderbolt II, B-1B Lancer, B-2 Spirit, C-17 Globemaster III, F-15 Eagle, F-16 Fighting Falcon, F/A-22 Raptor, T-38 Talon, and F-35 Joint Strike Fighter aircraft. It is therefore possible that aircraft would be grounded, and mission requirements for sorties would not be met.

Additional Alternatives - The 309 AMXG and CMXG program managers evaluated, but eliminated, other potential locations for housing the activities that currently occur in Building 238. These alternatives were not retained for detailed consideration due to the specialized nature of USAF workload assignments to Hill AFB, and lack of other local facilities with sufficient space and/or security measures to accommodate the required workload.

Results of the Environmental Assessment

The proposed action and the no action alternative were both considered in detail. During construction, wastes containing asbestos, lead-based paint, polychlorinated biphenyls (PCBs), and any contaminated soils would all be stored, transported, and disposed properly.

The proposed action could be implemented with minor construction-related air emissions of short term duration. Projected long term air emissions fall within the limits prescribed by the Hill AFB Title V permit.

The proposed action would be expected to produce regulated solid and liquid waste streams including paper wipes; maskants; rags; filters from plating and parts washers; bearing grease; air filters; water from parts washing and pressure testing; residue from paint mixing and paint gun cleaning; plating solution and rinse water; and motor oil. All non-recyclable regulated materials would be collected and disposed as hazardous waste (some of the liquid wastes would be treated in the Hill AFB industrial wastewater treatment plant).

The proposed action would be expected to produce short-term opportunities for local construction workers, and 34 long-term jobs at Hill AFB.

No long-term environmental impacts are expected from either the proposed action or the no action alternative.

Summary Comparison of Alternatives

Issue	<u>Alternative A</u> Proposed Action	<u>Alternative B</u> No Action
Air Quality	Temporary construction-related emissions. Long-term air emissions fall within the limits prescribed by the Hill AFB Title V permit.	Current conditions would continue.
Solid and Hazardous Wastes	Solid and liquid wastes containing regulated products would all be properly stored, transported, disposed, and/or re-used or recycled.	Current conditions would continue.
Surface Soils	If contaminated soils exist, they would be properly handled during the construction process.	Current conditions would continue.
Socioeconomics	Short-term opportunities would exist for local construction workers. Approximately 34 long-term jobs would be created.	Current conditions would continue.

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LIST OF ACRONYMS AND CHEMICAL TERMS

AFB	Air Force Base
AFSOH	Air Force Occupational Safety and Health
AICUZ	Air Installation Compatible Use Zone
ATS	Air Turbine Starter
bgs	Below the Ground Surface
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DAQ	Division of Air Quality (Utah)
dBA	Decibel (A-weighted)
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EPA	Environmental Protection Agency (United States)
FONSI	Finding of No Significant Impact
ft ²	Square Feet
gal/yr	Gallons Per Year
GTE	Gas Turbine Engine
HAP	Hazardous Air Pollutant
HEPA	High-Efficiency Particulate Air
IRP	Installation Restoration Program
IWTP	Industrial Wastewater Treatment Plant
JFS	Jet Fuel Starter

LO	Low Observable
NAAQS	National Ambient Air Quality Standards
NDCSD	North Davis County Sewer District
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NO _x	Oxides of Nitrogen
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PM-10	Particulates Smaller Than 10 Microns in Diameter
ppm	Parts Per Million
PTE	Potential to Emit
PTO	Power Take Off
RBSL	Risk-Based Screening Level
RCRA	Resource Conservation and Recovery Act
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SO _x	Oxides of Sulfur
TCLP	Toxicity Characteristic Leaching Procedure
UAC	Utah Administrative Code
UBC	Uniform Building Code
UPDES	Utah Pollutant Discharge Elimination System
USAF	United States Air Force
VOC	Volatile Organic Compound
XRF	X-ray Fluorescence

1.0 Purpose and Need for Action

Hill Air Force Base (AFB) is an air logistics center that maintains aircraft, missiles, and munitions for the United States Air Force (USAF). In support of that mission, Hill AFB: provides worldwide engineering and logistics management for the F-16 Fighting Falcon, A-10 Thunderbolt II, and the Minuteman III intercontinental ballistic missile; performs depot maintenance of the F-16 Fighting Falcon, A-10 Thunderbolt II, and C-130 Hercules aircraft; overhauls and repairs all types of landing gear, wheels, brakes and tires; and is the logistics manager for all conventional air munitions, solid propellants and explosive devices used throughout the Air Force.

Hill AFB has worldwide engineering, sustainment and logistics management and maintenance support responsibilities for some of the Air Force's most sophisticated weapon systems. It is the Air Force Center of Industrial and Technical Excellence for low-observable (LO, or stealth) aircraft structural composite materials and provides support for the B-2 Spirit multi-role bomber.

The purpose of the proposed action is to accommodate current and future USAF missions by renovating Building 238 at Hill AFB.

1.1 Proposed Action

This document addresses proposed renovation activities related to facilities that house modification, repair, and maintenance activities for A-10 Thunderbolt II, B-1B Lancer, B-2 Spirit, C-17 Globemaster III, F-15 Eagle, F-16 Fighting Falcon, F/A-22 Raptor, T-38 Talon, and soon the F-35 Joint Strike Fighter aircraft, in accordance with USAF mission requirements and technical order specifications.

These activities are currently performed in Building 238, Hill AFB, by the aircraft maintenance group (309 AMXG) and the commodities maintenance group (309 CMXG) of the 309 Aircraft Maintenance Wing (the wing's organizational designation is 309 MXW). Building 238 is an industrial facility, originally constructed in 1990.

1.1.1 Summary of the Proposed Action

The building renovation would include: consolidating gas turbine engine (GTE) cells; relocating a bearing shop from Building 214; providing facilities to implement lean manufacturing improvements for the jet fuel starter (JFS), air turbine starter (ATS), and power take off (PTO) programs; constructing a new product development laboratory in support of composite tooling efforts; creating a new optical shop and expanding LO painting capabilities; installing a new 5-axis router; providing a LO paint training facility; installing tanks to accomplish chromium plating, brush nickel plating, Dow 7 magnesium pretreatment, alodine, and passivation processes; and installing a flame spray booth.

1.1.2 Location Map

Hill AFB is located approximately twenty five miles north of downtown Salt Lake City and seven miles south of downtown Ogden, Utah (Figure 1).

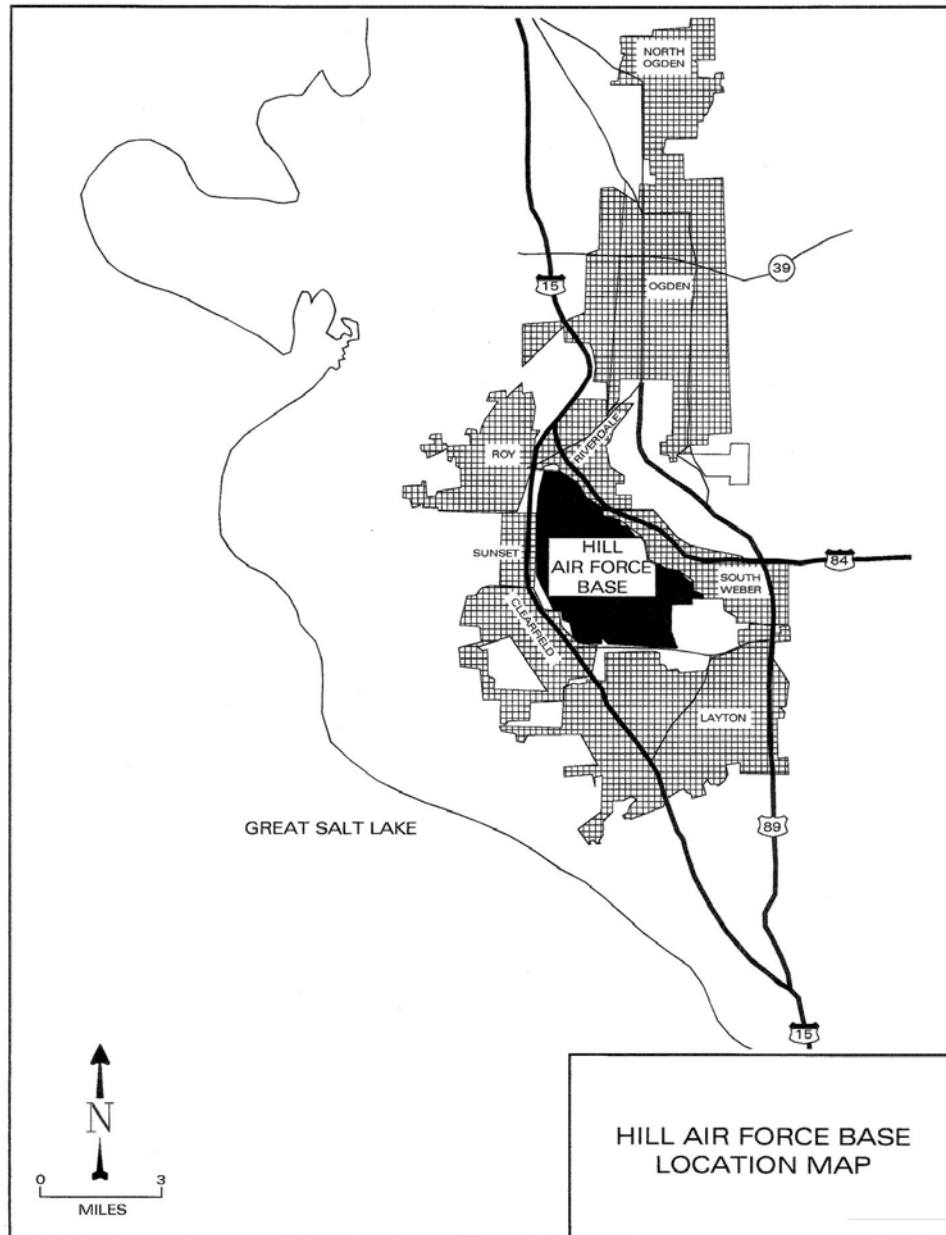


Figure 1: Hill AFB Location Map

Hill AFB is surrounded by several communities: Roy and Riverdale to the north; South Weber to the northeast; Layton to the south; and Clearfield, Sunset, and

Clinton to the west. The base lies primarily in northern Davis County with a small portion located in southern Weber County.

Building 238 is located in the southeastern portion of the base, approximately 0.4 miles north-northwest of the south entrance gate (Figure 2).

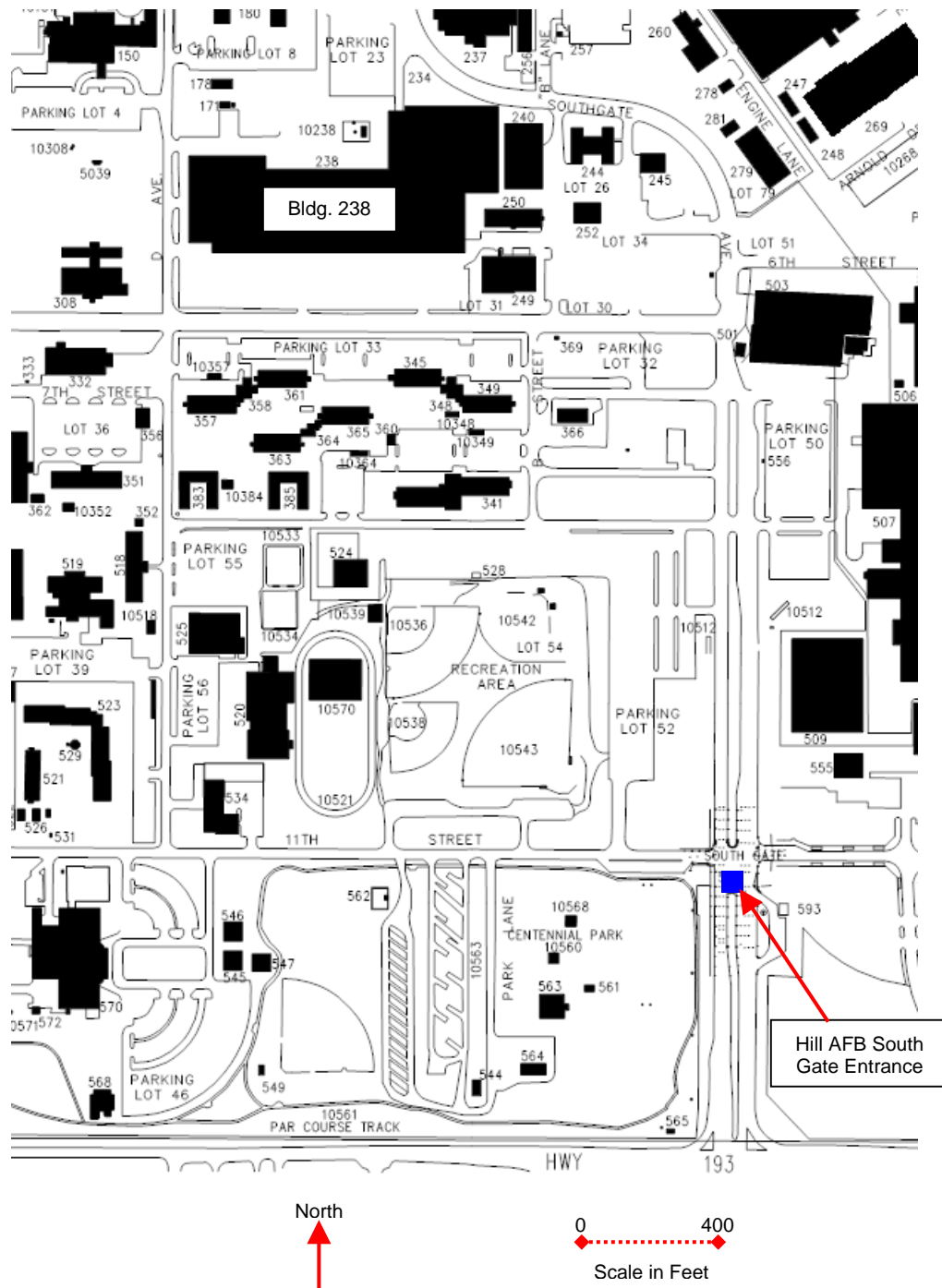


Figure 2: Location of the Proposed Building 238 Renovation

1.2 Need for the Proposed Action

The proposed action is needed to meet current and future USAF workload requirements for A-10 Thunderbolt II, B-1B Lancer, B-2 Spirit, C-17 Globemaster III, F-15 Eagle, F-16 Fighting Falcon, F/A-22 Raptor, T-38 Talon, and F-35 Joint Strike Fighter aircraft. The F/A-22 Raptor was newly introduced into the USAF fleet during 2005, and Hill AFB is the only USAF facility with the capability or assignment to repair F/A-22 Raptor aircraft. Similarly, Hill AFB is the only USAF facility with the capability or assignment to repair F-16 Fighting Falcon and A-10 Thunderbolt II aircraft.

1.3 Scoping and Issues

The scope of the environmental analysis was to explore environmental issues related to renovating Building 238.

1.3.1 Scoping

Scoping discussions were held: to identify potential environmental concerns; to facilitate an efficient environmental analysis process; to identify issues and alternatives that would be examined in detail while devoting less attention and time to less important issues; and to save time in the overall process by helping to ensure that draft documents would adequately address relevant issues, thereby reducing the possibility that comments would cause a document to be substantially rewritten.

On September 22, 2005, an initial scoping meeting was conducted in Building 5, Hill AFB. Attendees included proponents of the proposed action, managers of Hill AFB's National Environmental Policy Act (NEPA) program, other employees of the Hill AFB environmental program, and the authors of this document.

During this meeting and subsequent scoping interaction, the following environmental issues were addressed:

- Air quality.
- Solid and hazardous wastes (including liquid waste streams).
- Biological resources.
- Geology and surface soils.
- Water quality.
- Cultural resources.
- Occupational safety and health.
- Air installation compatible use zone (AICUZ).
- Socioeconomic resources.

1.3.2 Issues

As directed by the USAF Environmental Impact Analysis Process (EIAP) the following areas of potential impacts were considered.

- **Air Quality** (attainment status, emissions, Utah's state implementation plan [SIP])

During the renovation, air emissions would be produced by construction equipment. Operating the proposed facilities would create regulated air emissions. Air quality impacts are discussed in Section 4 of this document.

- **Solid and Hazardous Wastes** (materials to be used, stored, recycled, disposed, including liquid waste streams; existing asbestos, lead-based paint, mercury, and polychlorinated biphenyls [PCBs])

During the renovation, solid wastes would be generated and hazardous wastes might be generated that would require proper treatment and/or disposal. Additional hazardous wastes could be generated if a spill of fuel, lubricants, or construction-related chemicals were to occur. Liquid wastewater discharges are anticipated as a result of the renovation activities. Operating the proposed facilities would create solid and hazardous wastes (to include solid and liquid wastes). Impacts related to solid and hazardous wastes are discussed in Section 4 of this document.

- **Biological Resources** (threatened and endangered species, wetlands, floodplains)

No species of plants or animals listed as threatened or endangered are known to occur on Hill AFB (Hill AFB 2005a; Hill AFB 2005b), and the proposed action would not extend beyond the existing footprint of Building 238. There are no wetlands or floodplains in the vicinity of the proposed action.

- **Geology and Surface Soils** (known pre-existing contamination, seismicity, topography, minerals, geothermal resources)

Only minor disturbance to the land surface is proposed. Minor excavations beneath the concrete floor of Building 238 would be necessary to install: footings to stabilize various pieces of equipment; industrial drain lines; and miscellaneous cables, conduit, and pipes.

Contamination of shallow soil is known to exist in the vicinity of the proposed action. Impacts related to soil contamination are discussed in Section 4 of this document.

The scoping discussions did not identify any issues related to seismicity, topography, minerals, or geothermal resources.

- **Water Quality** (known pre-existing contamination, quantity, wellhead protection zones)

Liquid waste streams created during renovation and from operating the proposed facilities are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

No surface water resources exist within the immediate area of the proposed action. Contamination of groundwater is known to exist approximately 115 feet below the ground surface (bgs) beneath the proposed action. Since the proposed action would not require excavations deeper than 10 feet bgs, no groundwater impacts were identified in relation to the proposed action.

The scoping discussions did not identify any issues related to quantity of water or wellhead protection zones.

- **Cultural Resources** (archaeological, architectural, traditional cultural properties)

Building 238 was constructed in 1990. Therefore, no cultural resources (defined as archaeological, architectural, or traditional cultural properties) would exist within the boundaries of the proposed action.

- **Occupational Safety and Health** (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft)

Hazardous materials that could be disturbed during renovation are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

On Hill AFB, the Bio-environmental Engineering Flight (75 AMDS/SGPB) is responsible for implementing Air Force occupational safety and health (AFOSH) standards. The AFOSH program addresses (partial list): hazard abatement; hazard communication; training; personal protective equipment and other controls to ensure that occupational exposures to hazardous agents do not adversely affect health and safety; and acquisition of new systems.

The scoping discussions did not identify any issues related to occupational safety and health that would not be routinely addressed by the Bio-engineering Flight.

- **AICUZ** (noise, accident potential, airfield encroachment)

Building 238 lies in the 80-85 A-weighted decibel (dBA) noise level zone (documented in the current version of the Hill AFB AICUZ report). The primary source is external jet noise from the Hill AFB runway. At this noise level, appropriate noise reduction must be assured, based on the specific activities to be conducted in each work area. The external jet noise would be addressed by incorporating noise level reduction measures into the renovation design, in compliance with the Uniform Building Code (UBC) Chapter 35, and the current version of the Hill AFB AICUZ report. Since noise mitigation measures would be provided by design engineers through structural controls, noise impacts will not be addressed in a detailed fashion in this document.

The scoping discussions did not identify any issues related to aircraft accident potential or airfield encroachment.

- **Socioeconomic Resources** (local fiscal impacts including employment; population projections; schools)

Short-term opportunities would exist for local construction workers. The proposed action is expected to create 34 long-term jobs at Hill AFB for individuals with technical skills related to aviation and mechanical equipment repair. The scoping discussions did not identify any issues related to population projections or schools. Impacts related to socioeconomics are discussed in Section 4 of this document.

1.4 Issues Carried Forward for Detailed Analysis

The issues that have been identified for detailed consideration and are therefore presented in Sections 3 and 4 are:

- Air quality.
- Solid and hazardous wastes (including liquid waste streams).
- Surface soils.
- Socioeconomics.

1.5 Applicable Regulations and Permits

The following federal, state, and local regulations and permits would apply to the proposed action:

- NEPA of 1969.
- Council on Environmental Quality regulations.
- USAF-specific requirements contained in Title 32 of the Code of Federal Regulations [CFR] Part 989, EIAP.
- Safety guidelines of the Occupational Safety and Health Administration (OSHA).
- Relevant AFOSH standards.
- Utah's fugitive emissions and fugitive dust rules (Utah Administrative Code [UAC] Section R307-309).
- Utah's State Implementation Plan (UAC Section R307-110), which complies with the General Conformity Rule of the Clean Air Act (CAA), Section 176 (c).
- *Determining Conformity of Federal Actions to State or Federal Implementation Plans*, 40 CFR 93.154.
- The Hill AFB Title V Operating Permit (Permit Number: 1100007001).
- The Resource Conservation and Recovery Act (RCRA) and similar laws.
- A federal facility agreement under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).
- Utah hazardous waste management regulations contained in UAC Section R315, and the *Hill AFB Hazardous Waste Management Plan*.
- An industrial pretreatment permit issued by the North Davis County Sewer District (NDCSD).
- The Clean Water Act (CWA) and the Utah Pollutant Discharge Elimination System (UPDES).

2.0 Alternatives Including the Proposed Action

This section describes selection criteria, alternatives that were eliminated from further consideration, the proposed action, and the no action alternative.

2.1 Selection Criteria

As discussed in Sections 1.1 and 1.2, the 309 AMXG and the 309 CMXG occupy Building 238 to accomplish modification, repair, and maintenance functions for A-10 Thunderbolt II, B-1B Lancer, B-2 Spirit, C-17 Globemaster III, F-15 Eagle, F-16 Fighting Falcon, F/A-22 Raptor, T-38 Talon, and soon the F-35 Joint Strike Fighter aircraft, in accordance with USAF mission requirements and technical order specifications. Building 238 was constructed in 1990, but due to changing technologies and increased workload, this building is in need of renovation to meet current and future operational requirements.

Due to these considerations, the following selection criteria were established. The facility that accommodates 309 AMXG and 309 CMXG modification, repair, and maintenance functions described in this document should:

- Have sufficient space to house all of the necessary equipment and workers.
- Allow workers to efficiently complete their assigned workload.
- Incorporate all currently-required technologies.
- Provide security measures for the various aircraft programs.
- Be protective of facilities, human health, and the environment.

2.2 Alternatives Eliminated from Further Consideration

The 309 AMXG and CMXG program managers evaluated, but eliminated, other potential locations for housing the activities that currently occur in Building 238. Hill AFB is the Air Force's primary location for accomplishing the required composite workload, and Hill AFB has been selected as the USAF composite center of excellence. Hill AFB is the primary Air Force location for power systems maintenance (including but not limited to central gear boxes, gas turbine engines, jet fuel starters, and air turbine starters). Hill AFB is the only USAF facility with the capability or assignment to repair F/A-22 Raptor aircraft. Similarly, Hill AFB is the only USAF facility with the capability or assignment to repair F-16 Fighting Falcon and A-10 Thunderbolt II aircraft.

No other building exists on Hill AFB that could accommodate this workload, either in its current condition or by being renovated. No off-site local industrial facility exists (for example at Freeport Center in Clearfield, Utah) with sufficient space and/or security measures to accommodate the previously described workload. Constructing a brand new facility on Hill AFB was eliminated by the 309 AMXG and CMXG program managers as being cost prohibitive.

2.3 Alternatives Analyzed in Detail

2.3.1 Alternative A - Proposed Action

The proposed action includes all work necessary to renovate Building 238 at Hill AFB. The proposed building renovation would accommodate the following 13 activities within the existing footprint of Building 238 (Figure 3):

1. Consolidate GTE cells.
2. Relocate a bearing shop from Building 214.
3. Provide facilities to implement lean manufacturing improvements for the JFS, ATS, and PTO programs.
4. Construct a new product development laboratory in support of composite tooling efforts.
5. Create a new optical shop and expanding LO painting capabilities.
6. Install a new 5-axis router.
7. Provide a LO paint training facility.
8. Install chromium plating tanks.
9. Install nickel plating tanks.
10. Install Dow 7 magnesium pretreatment process.
11. Install alodine tanks.
12. Install passivation tanks.
13. Install a flame spray booth.

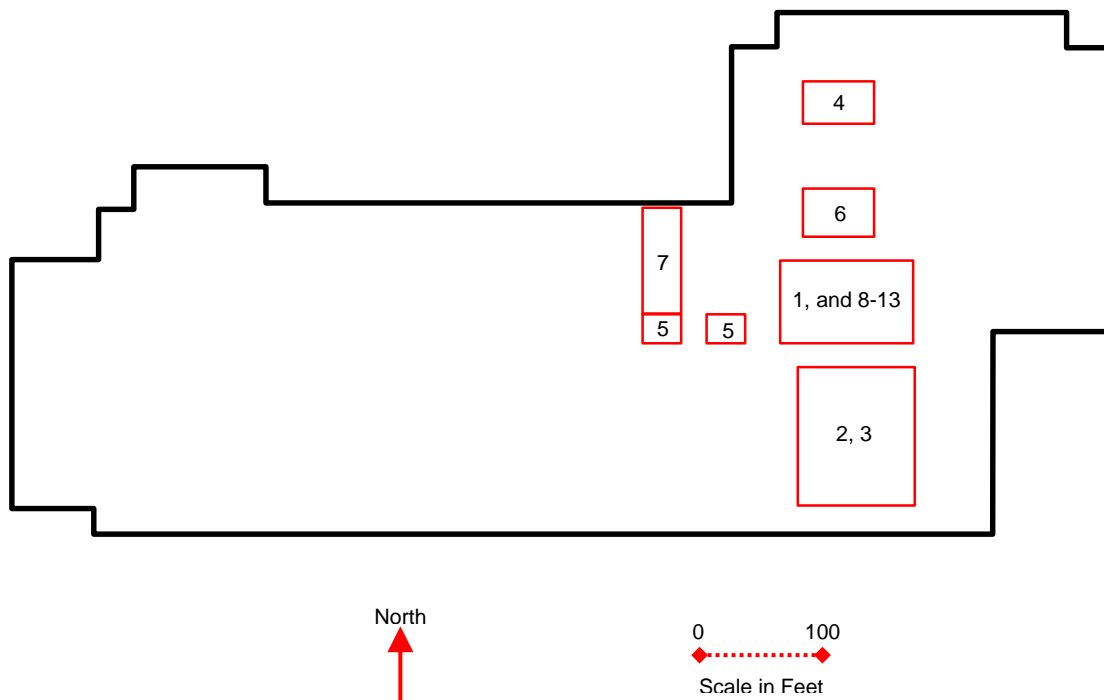


Figure 3: Location of Specific Activities Within Building 238

2.3.2 Alternative B - No Action

The no action alternative would be to continue the current mode of operation. Under the no action alternative, it is predicted that Hill AFB may be unable to provide sufficient capacity for modification, repair, and maintenance functions for A-10 Thunderbolt II, B-1B Lancer, B-2 Spirit, C-17 Globemaster III, F-15 Eagle, F-16 Fighting Falcon, F/A-22 Raptor, T-38 Talon, and F-35 Joint Strike Fighter aircraft. It is therefore possible that aircraft would be grounded, and mission requirements for sorties would not be met.

2.4 Comparison of Alternatives

Issue	<u>Alternative A</u> Proposed Action	<u>Alternative B</u> No Action
Air Quality	Temporary construction-related emissions. Long-term air emissions fall within the limits prescribed by the Hill AFB Title V permit.	Current conditions would continue.
Solid and Hazardous Wastes	Solid and liquid wastes containing regulated products would all be properly stored, transported, disposed, and/or re-used or recycled.	Current conditions would continue.
Surface Soils	If contaminated soils exist, they would be properly handled during the construction process.	Current conditions would continue.
Socioeconomics	Short-term opportunities would exist for local construction workers. Approximately 34 long-term jobs would be created.	Current conditions would continue.

Table 1: Summary Comparison of Alternatives

3.0 Affected Environment

This section discusses the existing environment. It is organized by the issues and resources that were identified for detailed analysis in Section 1.4.

3.1 Air Quality

Hill AFB is located in Davis and Weber Counties, Utah. Neither county is in complete attainment status with federal clean air standards (Figure 4). Nonattainment areas fail to meet national ambient air quality standards (NAAQS) for one or more of the criteria pollutants: oxides of nitrogen (NO_x), sulfur dioxide (SO_2), ozone (O_3), particulates less than 10 microns in diameter (PM-10), carbon monoxide (CO), and lead. Davis County was upgraded from an ozone non-attainment area to a maintenance area, effective 1997. Current status according to the Utah Division of Air Quality (DAQ 2005) for the City of Ogden in Weber County (approximately seven miles north of the proposed action) is designation as a non-attainment area for PM-10 and a maintenance area for CO.

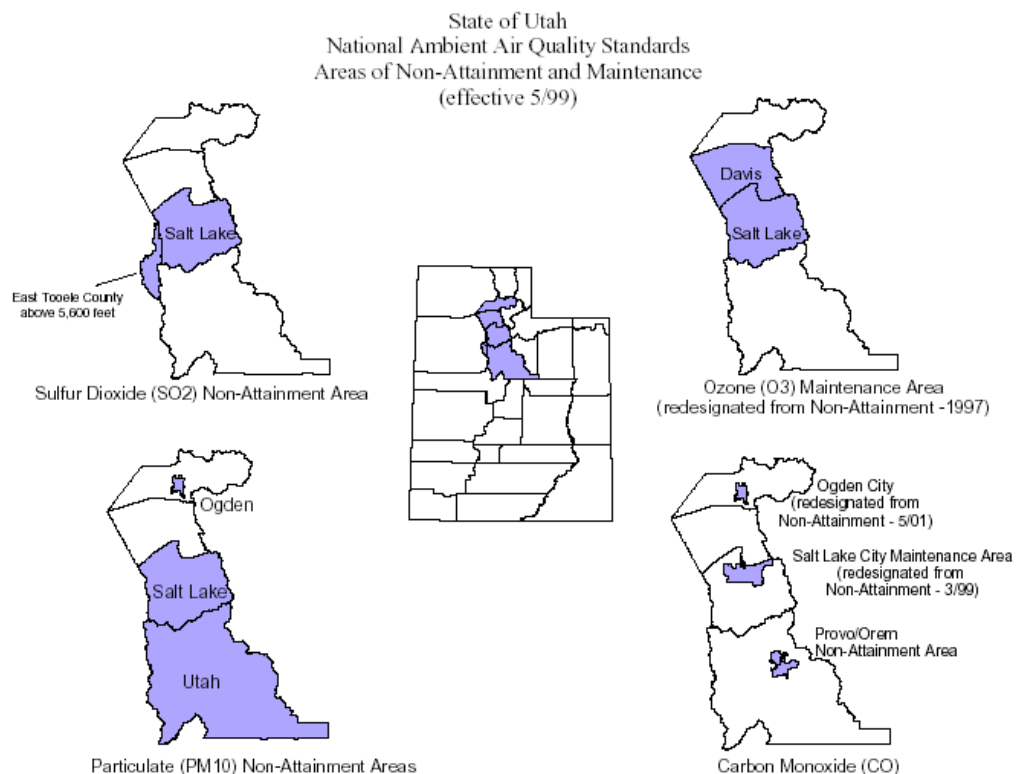


Figure 4: State of Utah National Ambient Air Quality Standards, Areas of Non-Attainment and Maintenance (Effective 5/99)

The current air quality trend at Hill AFB is one of controlling emissions as Hill AFB managers implement programs to eliminate ozone-depleting substances, limit use of volatile organic compounds (VOCs), switch to lower vapor pressure solvents and aircraft fuel, convert internal combustion engines from gasoline and diesel to natural gas, and improve the capture of particulates during painting and abrasive blasting operations (in compliance with the base's Title V air quality permit).

Various aircraft modification, repair, and maintenance activities are currently conducted in Building 238. Related to air quality, all of the processes that create regulated air emissions (e.g., abrasive blasting; chemical- and aqueous-based cleaning; vapor degreasing; cutting; painting) comply with US Environmental Protection Agency (EPA) and DAQ regulations, and with the base's Title V air quality permit.

3.2 Solid and Hazardous Wastes

In general, hazardous wastes include substances that, because of their concentration, physical, chemical, or other characteristics, may present substantial danger to public health or welfare or to the environment when released into the environment or otherwise improperly managed. Potentially hazardous and hazardous wastes generated at Hill AFB are managed as specified in the *Hill AFB Hazardous Waste Management Plan* with oversight by personnel from the Environmental Management Directorate and the Defense Reutilization and Marketing Office (DRMO). Hazardous wastes at Hill AFB are properly stored during characterization, and then manifested and transported off site for treatment and/or disposal.

Related to solid and hazardous wastes (including liquid waste streams), all of the aircraft modification, repair, and maintenance activities in Building 238 that currently create regulated wastes (e.g., abrasive blasting; chemical- and aqueous-based cleaning; vapor degreasing; painting) comply with EPA and Utah regulations, and with the base's relevant permits (RCRA Part B permit, industrial pretreatment permit).

3.3 Surface Soils

The surface soils in the vicinity of proposed excavations are flat and covered with concrete pavement. Shallow soil contamination does exist in the vicinity of Building 238 (Hill AFB 2005c). Low levels of arsenic, cadmium, and beryllium have been detected (above the applicable residential risk-based screening level [RBSL], yet below the applicable industrial RBSL).

3.4 Socioeconomics

Hill AFB, located in both Davis and Weber Counties, employs over 23,500 people (Hill AFB 2005d). The 2004 combined employed workforces of Davis and Weber Counties was approximately 230,000 (Davis 2005, Weber 2005).

4.0 Environmental Consequences

This section is organized by resource impacts. All resource impacts from each alternative appear under the discussion of that resource.

4.1 Air Quality

4.1.1 Impacts of the Proposed Action

4.1.1.1 Direct Impacts of Renovation

- **Fugitive Dust:** The proposed excavation due to renovating Building 238 would be limited to interior floor pits for footings and utilities, with a total expected surface area of approximately 500 square feet (ft²). Due to the work occurring in an existing indoor work space, both the concrete being cut and the soil being moved would be kept moist; no fugitive dust emissions would be generated.
- **Heavy Equipment:** The internal combustion engines of heavy equipment would generate emissions of VOCs, CO, NO_x, PM-10, hazardous air pollutants (HAPs), and oxides of sulfur (SO_x). Assumptions and estimated emissions for the construction period are listed in Table 2.

Data Assumptions							
Equipment Type	Diesel Emission Factor (lbs/hr)						
	VOC (HC)	CO	NO _x	PM10	HAPs	SO _x	
Dump Truck	0.63	2.04	6.98	0.58	0.16	0.65	
Loader/Backhoe	0.87	4.12	6.12	0.64	0.06	0.52	
Note: VOCs = Hydrocarbons and HAPs = Aldehydes							
Source: Industry Horsepower Ratings and EPA 460/3-91-02							
Renovate Building 238							
EQUIPMENT TYPE	HOURS OF OPERATION	Diesel Emissions (lbs)					
		VOC	CO	NO _x	PM10	HAPs	SO _x
Dump Truck	8	5.0	16.3	55.8	4.6	1.3	5.2
Loader/Backhoe	32	27.8	131.8	195.8	20.5	1.9	16.6
TOTAL ESTIMATED EMISSIONS (lbs)		32.9	148.2	251.7	25.1	3.2	21.8
TOTAL ESTIMATED EMISSIONS (tons)		0.02	0.07	0.13	0.01	0.00	0.01

Source of Hours: Discussions With Hill AFB Facility Engineers

Table 2: Calculated Heavy Equipment Emissions

- **Asbestos:** Although Building 238 was constructed in 1990, the roofing materials could contain asbestos. If the detailed engineering designs should require modifications to the roof, a detailed asbestos survey would be performed by Hill AFB employees prior to writing the specifications for the

renovation contract. Any asbestos abatement contractors would be verified by Hill AFB project managers as qualified to perform regulated asbestos abatement projects, and both the company and individual workers would possess all required certifications to perform the assigned tasks. Prior to beginning any asbestos abatement efforts, a notification of at least 10 days would be provided to DAQ. Because all work would be performed in accordance with standards set by the EPA and DAQ, there would be no impacts to air quality associated with any asbestos abatement required as part of the proposed action.

- **HAPs and VOCs:** HAPs and VOCs would be released to the atmosphere from epoxy-based concrete sealant and/or from paint. Approximately 485 gallons of epoxy-based concrete sealant would be used. Based on this volume and the material safety data sheets for typical sealants used at Hill AFB, 626 pounds of VOCs would be released to the atmosphere. Approximately 266 gallons of primer and paint would be used. Based on this volume and the material safety data sheets for typical primer and paint used at Hill AFB, 82 pounds of VOCs and 82 pounds of HAPs would be released to the atmosphere. For architectural coatings (painting walls, coating concrete floors), no air quality notifications to the state or permitting activities are required.

Each of the 13 proposed renovation projects would require less than six months to complete. For renovation (a type of construction) projects under six months in duration, no applicability analysis or conformity determination is required.

4.1.1.2 Direct Impacts of Operations

Based on interviews with Hill AFB facility engineers and conservative assumptions related to future workloads, several sources of air emissions from operating the proposed facilities were identified.

- **Fugitive Dust:** Approximately eight abrasive blast booths would be installed to clean surfaces of aircraft parts. The blast booths would be internally vented with high-efficiency particulate air (HEPA) filters to trap the dust being created within each booth. For this process, no air quality permit updates are anticipated. HEPA filters would also be provided for a new 5-axis router; a new 5-axis milling machine; and a new sanding and welding booth. For these processes, no air quality permit updates are anticipated.
- **Degreasing:** An enclosed vapor degreaser would be installed. Hill AFB air quality managers estimate the potential to emit (PTE) for this degreaser to be 1.6 tons per year of VOCs. Before the vapor degreaser could be used, an update to the Hill AFB Title V permit would be required.
- **Parts Washing:** Six new cold parts washers would be installed. Hill AFB air quality managers estimate the PTE for these parts washers to be 0.7 tons per

year of VOCs in aggregate. Before the parts washers could be used, an update to the Hill AFB Title V permit would be required.

- **Painting:** Detachable parts from F/A-22 Raptor airframes would be painted as part of the proposed action. Based on recent worst-case estimates for painting operations at Hill AFB (URS 2005), and a conservative estimate that 20 percent of each F/A-22 Raptor airframe is comprised of detachable parts, air emissions were calculated as 1.1 tons per year of VOCs and 0.7 tons per year of HAPs. Before this paint booth could be used, an update to the Hill AFB Title V permit would be required. A paint booth to be used for training purposes would be installed. Hill AFB painters conservatively estimate the usage in the training area to be 25 gallons per year (gal/yr). Based on recent worst-case estimates for VOC and HAP content of aircraft paint at Hill AFB (URS 2005), air emissions from this activity were calculated as 175 pounds per year of VOCs and 109 pounds per year of HAPs. Before this paint booth could be used, an update to the Hill AFB Title V permit would be required.
- **Solvents:** Proposed composite layup training activities were conservatively estimated to require 25 gal/yr of Turco 4460 BK solvent and 100 gal/yr of isopropyl alcohol. The VOC content for each of these cleaners is 100 percent (with no HAPs). Based on the specific gravities of these liquids, air emissions from this activity were calculated as 0.5 tons per year of VOCs. There is an existing Hill AFB approval order for surface coatings that applies to general solvent usage, and no approval order update is anticipated for the proposed composite layup training activities.
- **Plating and pretreatment processes:** The proposed chromium plating and Dow 7 magnesium pretreatment processes would both require updates to the Hill AFB Title V permit. Emissions from both of these processes would be controlled by installing air scrubbing equipment.
- **Flame spray booth:** The proposed flame spray booth would require an update to the Hill AFB Title V permit. HEPA filters (or an equivalent high-efficiency control technology) would be provided for the flame spray booth.

For operating the proposed facilities, Hill AFB air quality managers would submit a notification of intent (NOI) to DAQ related to any activities for which a permit modification or modification to an approval order would be required. Hill AFB would not be allowed to operate the new facilities until DAQ concurs that federal and state requirements are being met. Following this existing Hill AFB process would ensure conformity with the CAA by virtue of complying with Utah's SIP.

4.1.2 Impacts of No Action

4.1.2.1 Direct Impacts of Renovation

There would be no renovation, and therefore, no renovation-related air quality impacts associated with the no action alternative.

4.1.2.2 Direct Impacts of Operations

With respect to ongoing air emissions, current conditions would continue under the no action alternative (see Section 3.1).

4.1.3 Indirect Impacts

During scoping and the detailed analysis, no indirect impacts related to air quality were identified for either the proposed alternative or the no action alternative.

4.1.4 Cumulative Impacts

- **Construction:** Each of the 13 separate renovation projects would be most likely happen at different times. All renovation-related air emissions would be temporary. There would be no predicted significant cumulative impacts to air quality associated with the renovation activities.
- **Operations:** Hill AFB air quality managers would ensure that long-term operation of the proposed action complies with the Hill AFB Title V Permit; any relevant approval orders; and the Utah SIP. Any required air quality control devices would be installed and tested prior to allowing newly installed equipment to begin operating. There would be no predicted cumulative impacts to air quality associated with operating the proposed facilities in Building 238.

During scoping and the detailed analysis, no cumulative impacts related to air quality were identified for the no action alternative.

4.2 Solid and Hazardous Wastes

4.2.1 Impacts of the Proposed Action

4.2.1.1 Direct Impacts of Renovation

- **Waste Generation:** During the proposed renovation activities, concrete, concrete dust from sandblasting would be captured in HEPA filters, and other construction debris would be generated, all managed as uncontaminated trash. It is possible that equipment failure or a spill of fuel, lubricants, or

construction-related chemicals could generate solid or hazardous wastes. In the event of a spill of regulated materials, Hill AFB would comply with all federal, state, and local spill reporting requirements.

- **Waste Management:** Hill AFB personnel have specified procedures for handling construction-related solid and hazardous wastes in their engineering construction specifications. The procedures are stated in *Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*. All solid non-hazardous waste is routinely collected and disposed. The specific waste streams of uncontaminated wood, concrete, and asphalt are placed in the Hill AFB construction debris landfill. Samples from suspect wastes (such as rags from cleaning surfaces) are analyzed for hazardous vs. non-hazardous determination. The suspect waste is safely stored while analytical results are pending. Hazardous wastes are stored at sites operated in accordance with the requirements of 40 CFR 265. The regulations require the generator to characterize hazardous wastes with analyses or process knowledge. Hazardous wastes are labeled, transported, treated, and disposed in accordance with federal and state regulations.
- **Excavated Soils:** Approximately 100 cubic yards of excess soil could be generated as a result of installing footings to stabilize various pieces of equipment; industrial drain lines; and miscellaneous cables, conduit, and pipes. Excavated surface soils would be managed according to Hill AFB policy, whereby contaminated soils are placed in the Hill AFB construction debris landfill, and no soil leaves the base without approval from Hill AFB environmental managers. The potential for contaminated surface soils to create a hazardous waste stream is discussed in Section 4.3.1.1.
- **Asbestos:** Any friable asbestos detected during a detailed asbestos survey and subsequently removed during an abatement action, would be disposed in accordance with permit requirements at a disposal facility that is approved to accept friable asbestos. Loose flakes of lead-based paint (confirmed to contain lead by on-site inspections using a portable X-ray fluorescence [XRF] analyzer) would be scraped, collected, and properly disposed at a permitted hazardous waste disposal facility. Dielectric fluid from any transformers or light ballasts suspected of containing PCBs would be tested, and the equipment would be properly disposed as either a regulated waste (PCB content of 50 parts per million [ppm] or more) or as uncontaminated trash (PCB content less than 50 ppm). Materials used to clean surface grime during the renovation projects would be sampled and tested for regulated metals content using EPA's Toxicity Characteristic Leaching Procedure (TCLP). If regulated metals concentration in the leachate equaled or exceeded a regulatory threshold, the materials would be disposed as hazardous waste at a permitted hazardous waste disposal facility; otherwise, they would be disposed as uncontaminated trash.

Non-friable asbestos, and lead-based paint that is still affixed to surfaces, would be disposed at a local construction debris (Class VI) landfill. Class VI landfills are allowed to accept construction and demolition waste, including: non friable asbestos; lead based paint that is still affixed to surfaces; and a quantity of 10 PCB-containing light ballasts per structure.

- **Mercury:** Thermostats that contain mercury switches would be collected by electricians from the Hill AFB facilities maintenance flight (75 CES/CEZ) prior to demolition activities. Any thermostats not saved for local reuse would be delivered to the DRMO, which has an office on Hill AFB. DRMO would send the thermostats to be recycled, and a waste stream would not be created.
- **Liquids:** Any liquids generated by wet concrete cutting activities or by cleaning surfaces during the renovation would be routed to and treated by the Hill AFB industrial wastewater treatment plant (IWTP).

4.2.1.2 Direct Impacts of Operations

- **Containment:** The proposed renovation would provide proper secondary containment and security controls for chemical storage areas; waste accumulation points; and any areas where hazardous liquids would be present (e.g., surrounding the parts washers).
- **Non-Regulated Wastes:** Operating the proposed facilities would generate the following non-hazardous solid waste streams: sheet metal; aluminum; paper; dry polymer; nomex; glass- or arimid-resin honeycomb; prepreg; performs; fiberglass; carbon-based composite; blast media (plastic, glass/garnet, wheat, corn starch); and HEPA filters used to collect particles from only these materials. These items would be disposed as uncontaminated trash. Recycling opportunities are likely to exist for aluminum, sheet metal, and blast media.
- **Regulated Solid Wastes:** Operating the proposed facilities would generate the following regulated solid waste streams: paper wipes; masking tape; rags; 12 filters per year from parts washers; six filters per year from chromium plating; approximately 200 gal/yr of sludge from plating and related processes; an estimated eight ounces per year of bearing grease from two cranes; and HEPA filters used with blast booths that remove paint. Most dirty rags on Hill AFB can be laundered and used again; the remaining rags are collected and disposed as hazardous waste. All non-recyclable items would be collected and disposed as hazardous waste.
- **Regulated Liquid Wastes:** Operating the proposed facilities would generate the following regulated liquid waste streams that would drain directly to and be treated by the Hill AFB IWTP: water from manual parts and equipment washing; rinse tank effluent; and water from pressure testing dome chambers and breach caps. Operating the proposed facilities would generate the

following regulated liquid waste streams that would be collected in containers and transported by truck to the Hill AFB IWTP for treatment: Turco 6849 (estimated 2,040 gal/yr); Turco Rustblock (estimated 2,040 gal/yr); Turco 4181-L (estimated 1,020 gal/yr); Turco Caviclean estimated 150 gal/yr; and Turco Aquisorb (estimated 240 gal/yr).

Operating the proposed facilities would generate the following regulated liquid waste streams that would be collected in containers, labeled, and transported off base to be treated, and/or disposed in accordance with federal and state regulations: Breakthrough (estimated 1,360 gal/yr); PD 680 [or its replacement] (estimated 12 gal/yr); n-propyl bromide (estimated 30 gal/yr); residue from paint mixing and paint gun cleaning (estimated 600 gal/yr); and water from chromium plating process tanks (estimated 600 gallons, once per five to ten years).

Operating the proposed facilities would generate used motor oil for which recycling opportunities are likely to exist. Any oil not meeting recycling criteria would be collected in containers, labeled, and transported off base to be treated, and/or disposed in accordance with federal and state regulations.

4.2.2 Impacts of No Action

4.2.2.1 Direct Impacts of Renovation

There would be no renovation, and therefore, no renovation-related impacts to solid and hazardous wastes associated with the no action alternative.

4.2.2.2 Direct Impacts of Operations

With respect to solid and hazardous wastes, current conditions would continue under the no action alternative (see Section 3.2).

4.2.3 Indirect Impacts

During scoping and the detailed analysis, no indirect impacts related to solid and hazardous wastes were identified for either the proposed alternative or the no action alternative.

4.2.4 Cumulative Impacts

Proper handling of solid and hazardous wastes during renovation and operations would eliminate releases of contaminants from Hill AFB to the environment. There would be no cumulative solid or hazardous waste impacts associated with the proposed action.

During scoping and the detailed analysis, no cumulative impacts related to solid and hazardous wastes were identified for the no action alternative.

4.3 Surface Soils

4.3.1 Impacts of the Proposed Action

4.3.1.1 Direct Impacts of Renovation

No bare soil areas or vegetated areas would be disturbed by the proposed action. Contamination of shallow soil does exist in the vicinity of Building 238.

Minor excavations beneath the concrete floor of Building 238 would be necessary to install: footings to stabilize various pieces of equipment; industrial drain lines; and miscellaneous cables, conduit, and pipes. Approximately 100 cubic yards of excess soil could be generated as a result.

If suspected or actual shallow soil contamination were to be identified in any excavation beneath the floor of Building 238 (due to suspicious odors or appearance), it would be addressed by the Hill AFB Installation Restoration Program (IRP) and the Hill AFB soil policy, based upon the type of contamination present and its origin, either according to RCRA requirements, or the conditions of a federal facility agreement under CERCLA. Waste management procedures for excavated soils are described in Section 4.2.1.1.

4.3.1.2 Direct Impacts of Operations

Operating the proposed facilities would not create any interaction with surface soils, and therefore, no impacts to surface soils were identified.

4.3.2 Impacts of No Action

4.3.2.1 Direct Impacts of Renovation

There would be no renovation, and therefore, no renovation-related impacts to surface soils associated with the no action alternative.

4.3.2.2 Direct Impacts of Operations

With respect to surface soils, current conditions would continue under the no action alternative (see Section 3.3).

4.3.3 Indirect Impacts

During scoping and the detailed analysis, no indirect impacts related to surface soils were identified for either the proposed alternative or the no action alternative.

4.3.4 Cumulative Impacts

Proper handling of excavated soils during renovation would eliminate releases of contaminants from Hill AFB to the environment. There would be no cumulative surface soil impacts associated with the proposed action.

During scoping and the detailed analysis, no cumulative impacts related to surface soils were identified for the no action alternative.

4.4 Socioeconomics

4.4.1 Impacts of the Proposed Action

4.4.1.1 Direct Impacts of Renovation

Each of the 13 proposed renovation projects would require less than six months to complete. Short-term opportunities would exist for local construction workers.

4.4.1.2 Direct Impacts of Operations

The proposed action is expected to create 34 long-term jobs at Hill AFB for individuals with technical skills related to aviation and mechanical equipment repair. This increase of 34 jobs at Hill AFB would be a minor positive effect on the local economy, compared to 230,000 existing jobs in Davis and Weber Counties.

4.4.2 Impacts of No Action

4.4.2.1 Direct Impacts of Renovation

There would be no renovation, and therefore, no renovation-related impacts to socioeconomics associated with the no action alternative.

4.4.2.2 Direct Impacts of Operations

With respect to socioeconomics, current conditions would continue under the no action alternative (see Section 3.4).

4.4.3 Indirect Impacts

During scoping and the detailed analysis, no indirect impacts related to socioeconomics were identified for either the proposed alternative or the no action alternative.

4.4.4 Cumulative Impacts

In addition to the estimated 34 jobs that would be created at Hill AFB by the proposed action, workloads at Hill AFB are increasing and these increases are expected to continue. Employment levels at Hill AFB change on an annual basis depending on funding available to, and decisions made by, USAF headquarters. Cumulative socioeconomic impacts are therefore expected to be in the positive direction, but are not quantified in this document.

During scoping and the detailed analysis, no cumulative impacts related to socioeconomics were identified for the no action alternative.

4.5 Summary of Impacts

The proposed action and the no action alternative were both considered in detail. During construction, wastes containing asbestos, lead-based paint, PCBs, and any contaminated soils would all be stored, transported, and disposed properly.

The proposed action could be implemented with minor construction-related air emissions of short-term duration. Projected long-term air emissions fall within the limits prescribed by the Hill AFB Title V permit.

The proposed action would be expected to produce regulated solid and liquid waste streams including paper wipes; rags; filters from parts washers; bearing grease; HEPA filters; water from parts washing and pressure testing; residue from paint mixing and paint gun cleaning; and motor oil. All non-recyclable regulated materials would be collected and disposed as hazardous waste (some of the liquid wastes would be treated in the Hill AFB IWTP).

No long-term environmental impacts are expected from either the proposed action or the no action alternative.

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7.0 References

CFR: *Code of Federal Regulations*, US Government Printing Office, Office of the Federal Register (various sections and dates).

Davis 2005: *Davis County Facts*, Davis County Utah, 2005,
<http://jobs.utah.gov/opencms/wi/regions/northern/davis/davisfs.pdf>

DAQ 2005: *State of Utah National Ambient Air Quality Standards, Areas of Non-Attainment and Maintenance (Effective May, 1999)*, Utah Division of Air Quality Website, www.airquality.utah.gov/GRAPHICS/MAPS/non_attn.pdf.

EPA 1991: *Nonroad Engine and Vehicle Emission Study - Report*, Table 2-07a, US Environmental Protection Agency EPA 460/3-91-02, 1991.

Hill AFB: *Construction Specifications, Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*, Hill AFB, UT, current version.

Hill AFB 2005a: *Land Management (Web Page)*,
<http://www.em.hill.af.mil/conservation/natural/landm.htm>.

Hill AFB 2005b: *Fish & Wildlife Management At Hill Air Force Base (Web Page)*,
<http://www.em.hill.af.mil/conservation/natural/fishwild.htm>.

Hill AFB 2005c: *E-mail from Shannon Smith*, Hill AFB, dated November 14, 2005.

Hill AFB 2005d: *Ogden Air Logistics Center (Web Page)*,
<http://www.hill.af.mil/main/units/ooalc.html>

UAC: *Utah Administrative Code*, State of Utah, (various sections and dates).

URS 2005: *E-mail and Spreadsheet Data from John Peterson*, URS Corporation, dated June 17, 2005.

USAF 2005: *USAF Civilian Science and Engineering (Web Page)*,
http://www.afciviliancareers.com/loc_Hill.asp.

Weber 2005: *Weber County Facts*, Weber County Utah, 2005,
<http://jobs.utah.gov/opencms/wi/regions/northern/weber/weberfs.pdf>

FINDING OF NO SIGNIFICANT IMPACT

1. NAME OF ACTION: Renovate Building 238 at Hill Air Force Base (AFB), Utah.

2. DESCRIPTION OF THE PROPOSED ACTION: Hill AFB proposes to accommodate current United States Air Force (USAF) missions by renovating Building 238 on Hill AFB. The proposed action is needed to meet current and future USAF workload requirements for A-10 Thunderbolt II, B-1B Lancer, B-2 Spirit, C-17 Globemaster III, F-15 Eagle, F-16 Fighting Falcon, F/A-22 Raptor, T-38 Talon, and F-35 Joint Strike Fighter aircraft.

The proposed building renovation would include consolidating gas turbine engine (GTE) cells; relocating a bearing shop from Building 214; providing facilities to implement lean manufacturing improvements for the jet fuel starter (JFS), air turbine starter (ATS), and power take off (PTO) programs; constructing a new product development laboratory in support of composite tooling efforts; creating a new optical shop and expanding low-observable (LO) painting capabilities; installing a new 5-axis router; providing a LO paint training facility; installing tanks to accomplish chromium plating, brush nickel plating, Dow 7 magnesium pretreatment, alodine, and passivation processes; and installing a flame spray booth.

3. SELECTION CRITERIA: The following criteria were used to assemble alternatives. The facility that accommodates the aircraft maintenance group's (309 AMXG) and the commodities maintenance group's (309 CMXG) modification, repair, and maintenance functions should:

- Have sufficient space to house all of the necessary equipment and workers.
- Allow workers to efficiently complete their assigned workload.
- Incorporate all currently-required technologies.
- Provide security measures for the various aircraft programs.
- Be protective of facilities, human health, and the environment.

4. ALTERNATIVES CONSIDERED OTHER THAN THE PROPOSED ACTION:

Under the no action alternative, it is predicted that Hill AFB may be unable to provide sufficient capacity for modification, repair, and maintenance functions for the aircraft mentioned above. It is therefore possible that aircraft would be grounded, and mission requirements for sorties would not be met.

The 309 AMXG and CMXG program managers evaluated, but eliminated, other potential locations for housing the activities that currently occur in Building 238. These alternatives were not retained for detailed consideration due to the

specialized nature of USAF workload assignments to Hill AFB, and lack of other local facilities with sufficient space and/or security measures to accommodate the required workload.

5. SUMMARY OF ANTICIPATED ENVIRONMENTAL EFFECTS:

a. Proposed Action: This alternative fully satisfies all applicable regulations and provides for accomplishment of mission objectives without significant impacts to human health or the environment. During construction, wastes containing asbestos, lead-based paint, polychlorinated biphenyls, and any contaminated soils would all be stored, transported, and disposed properly.

The proposed action could be implemented with minor construction-related air emissions of short term duration. Projected long term air emissions fall within the limits prescribed by the Hill AFB Title V permit.

The proposed action would be expected to produce regulated solid and liquid waste streams including paper wipes; maskants; rags; filters from plating and parts washers; bearing grease; air filters; water from parts washing and pressure testing; residue from paint mixing and paint gun cleaning; plating solution and rinse water; and motor oil. All non-recyclable regulated materials would be collected and disposed as hazardous waste (some of the liquid wastes would be treated in the Hill AFB industrial wastewater treatment plant).

The proposed action would be expected to produce short-term opportunities for local construction workers, and 34 long-term jobs at Hill AFB.

b. No Action Alternative: Under the no action alternative, current conditions would continue. No environmental impacts were identified for the no action alternative.

6. FINDING OF NO SIGNIFICANT IMPACT: Based on the above considerations, a Finding of No Significant Impact (FONSI) is appropriate for this assessment.

Approved by:  Date: 6 Feb 06
HARRY BRIE SMATER III, Colonel, USAF
Commander